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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,861	10/01/2004	Dirk Mangler	HM-598PCT	4307

40570 7590 12/21/2006
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EXAMINER

TRAN, LEN

ART UNIT	PAPER NUMBER
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1725

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
2 MONTHS	12/21/2006	PAPER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/509,861
Filing Date: October 01, 2004
Appellant(s): MANGLER ET AL.

MAILED

DEC 21 2006

GROUP 1700

Friedrich Kueffner
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 16, 2006 appealing from the Office action
mailed February 3, 2006

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

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(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

GB 1,082,988

MARR et al

9-1967

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 1,082,988

As to claims 1 and 5, GB '988 disclose a mold for continuous casting comprising cooling channels, such as cooling bores, in the side of the mold. The varyingly geometric design of the heat transfer surface areas of a cooling channel are adapted in shape, cross-sectional area, to the

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local development of the heat flux density in the casting operation. The effective heat exchange surfaces on the base of the channel can be increased or decreased, to influence the local cooling intensity (figures).

As to claim 2, wherein grooves (section at 10) additionally introduced to increase heat exchange surfaces in the cooling channels.

As to claim 3, the cooling channels are altered as shown in the figure to influence cooling intensity.

As to claim 4, grooves are produced in the base as shown in figures to promote cooling intensity.

(10) Response to Argument

As to page 7, 2nd paragraph, appellant argues that *"the necessity of the local, varying matching of the cooling channel surfaces of a mold to the respectively locally controlling temperature of the mold in the casting direction and therewith to the locally varying necessary heat transfer, was not known to those skilled in the art at the time of GB'988. The Examiner's position that GB'988 discloses the presently claimed invention is at best based on impermissible hindsight. In applicant's opinion, GB'988 makes no disclosure of the presently claimed invention."* Examiner respectfully disagrees. GB '988 discloses the claimed invention including cooling channels in the side of the mold, the cooling effect of the cooling channel is maximize in the region of the maximum heat flux density, wherein the local heat-transfer cooling channel surfaces are adapted varyingly via geometric design of the heat transfer surface areas of the

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cooling channel, and its isoperimetric cross-sectional area is decrease by inserting displacement bodies (page 2, lines 14-35, lines 61-94, lines 105-112).

Furthermore, appellant argues on page 7, 3rd paragraph, that GB '988 fails to teach the local heat-transfer cooling channel surfaces are adapted varyingly via geometric designs of the heat transfer surface areas of a cooling channel. Examiner respectfully disagrees. GB '988 discloses local heat-transfer **cooling channel surfaces** (page 2, lines 14-20) are adapted varyingly via geometric designs (*the passages 3 with restrictor rod 4, wherein restrictor rod 4 shown in figures 12-17 has different geometric designs*) of the heat transfer surface area (*different restrictor rod 4 geometric design results in different heat transfer areas*) of a cooling channel. Therefore, GB '988 discloses the claimed invention as claimed.

As to page 8, last paragraph and page 9, 1st paragraph, appellant indicated that figure 9 of appellant's invention shows maximum heat flux density Q_{max} or T_{max} in the region under molten metal level and in adapting to the heat flux density, variable by the number, form, or depth of the cooling channel grooves. Examiner would like to point out that GB '988 discloses that Q_{max} and T_{max} is inherently in the region under molten metal level, since solidification occurs further down the mold, where heat is dropped due to cooling channels. GB '988 discloses in page 2, lines 106-111 that the plug 4 can be replaced to give different cross-sectional areas of the water channels. Hence, different cross-sectional areas results in a change in heat flux density. GB '988 discloses the claimed invention as claimed.

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

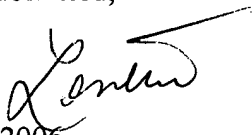
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Len Tran

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December 18, 2006



Conferees:

Patrick Ryan

Steve Griffin

